Fast, Furious & Fatal: An Assessment of Speed Setting Methodology in California

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Research Topic

As vehicle speed increases, so do the probability and severity of a crash. Recognizing this relationship, the City of Los Angeles updated its speed limits in 2017 as part of its Vision Zero program. Yet California's methodology for setting speed limits, known as the 85th percentile rule, forced LA to increase speed limits on more than 90 miles of streets with a history of known collisions.

A common practice in the United States, the rule sets the speed limit at the speed at which 85 percent of the vehicles travel at or under on a given roadway. Supporters of the 85th percentile methodology see it as a safe and fair way to set the speed limit based on the driving behavior of the majority of drivers. Critics of the methodology disagree with setting speed limits based on existing driver behavior, claiming that it will create unsafe road conditions. I examined California's methodology, its relationship to roadway safety (especially in urban areas), and other possible approaches that could improve safety.

Main Findings

- State law does prioritize safety in the methodology for setting speed limits, but does not provide enough flexibility for urban areas to set speed limits that are appropriate for complex environments. For example, the current methodology allows a small speed reduction from the 85th percentile only if there is a history of bicycle and pedestrian collisions, not just if a location sees a high volume of people walking and biking.
- Urban areas are constrained in their ability to adjust posted speed limits by changing the 85th percentile speed beyond a simple 5 mile per hour reduction that is applied almost universally in the city.
- Other states have found ways to increase speed limit flexibility for local jurisdictions, including setting a statewide maximum speed limit for urban areas, authorizing local jurisdictions to set speed limits on their streets, and employing pilot projects to test alternative methods for setting speed limits in cities.

Study

I employed a mixed-methods approach that included a literature review of past research into speed, speed limits, and roadway safety; an analysis of text pertaining to California speed limits in the California Vehicle Code (CVC) and the California Manual on Uniform Traffic Control Devices (CA MUTCD); an analysis of 2017 speed survey data from the City of Los Angeles; a review of case studies of alternative speed limit methodologies in Washington, Oregon, and Sweden; and a summary of legislative action in California since 1996 pertaining to the speed limit methodology.

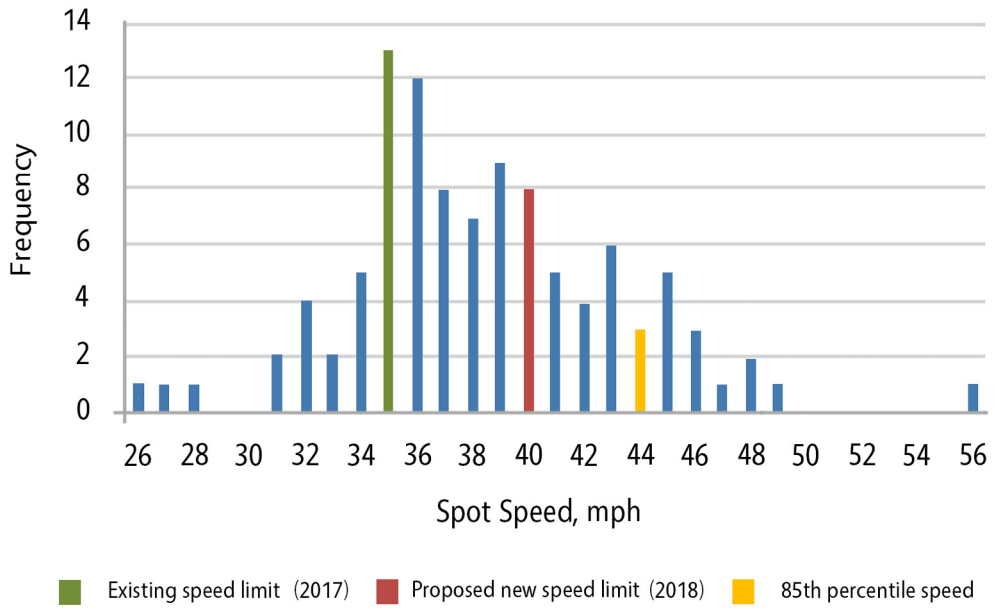
KEY TAKEAWAYS

- Managing speed is a critical component of achieving roadway safety, and the first step is to set speed limits that are safe and enforceable for all users of the roadway.
- Los Angeles and other cities in California need an updated speed-setting methodology that will produce safe outcomes for urban streets.
- The hybrid approach for setting speed limits at the local level using injury minimization principles would update the existing speed setting methodology and better serve the state's urban areas.

Recommendations

- California should end its practice of setting speed limits based on the 85th percentile speed and shift the authority for setting speed limits to local jurisdictions.
- Local jurisdictions should set speed limits using methods, such as the injury minimization method, that focus on safety outcomes, rather than solely on operating speed.
- Speed limits should be paired with the adoption of automated speed enforcement, which would increase compliance with speed limits.

Fig. 1 Frequency Distribution of Speeds along Hubbard Street.



On Hubbard Street, the existing speed limit was 35 mph. The 85th percentile speed was measured as 44 mph. The critical speed was rounded to 45 mph and the City applied a 5-mph reduction based on a history of pedestrian and bicycle crashes and proposed the new posted speed limit of 40 mph.

For More Information

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